

wherein the glaze layer comprises:

1 mol% or less of a Pb component in terms of PbO;

35 to 55 mol% of a Si component in terms of SiO₂;

15 to 35 mol% of a B component in terms of B₂O₃;

5 to 20 mol% of a Zn component in terms of ZnO;

0.5 to 20 mol% in total of at least one of Ba and Sr components in terms of BaO and SrO,

respectively; and

10 to 15 mol% in total of at least one of alkaline metal components of Na, K, and Li in terms of Na₂O, K₂O, and Li₂O, respectively;

Amended
wherein the glaze layer contains the Li component and at least two alkaline metal components among the Li, Na and K components, and satisfies the relationship: $0.2 < \frac{N\text{Li}_2\text{O}}{N\text{R}_2\text{O}} < 0.5$ when the at least two alkaline metal components are taken as R, NR₂O is a total mol content of the at least two alkaline metals in terms of a composition formula R₂O, and NLi₂O is a mol content of the Li component in terms of Li₂O.

2. (Amended) A spark plug comprising:

a central electrode;

a metal shell;

an alumina ceramic insulator disposed between the center electrode and the metal shell,

wherein at least part of the surface of the insulator is covered with a glaze layer comprising oxides,

wherein the glaze layer comprises:

1 mol% or less of a Pb component in terms of PbO;

35 to 55 mol% of a Si component in terms of SiO₂;

15 to 35 mol% of a B component in terms of B₂O₃;

5 to 20 mol% of a Zn component in terms of ZnO;

0.5 to 20 mol% in total of at least one of Ba and Sr components in terms of BaO and SrO,

A/cmp.
respectively; and

10 to 15 mol% in total of at least one of alkaline metal components of Na, K, and Li in terms of Na₂O, K₂O, and Li₂O, respectively;

wherein the glaze layer contains the K component and at least two alkaline metal components among the Li, Na, and K components, and satisfies the relationship: $0.4 < \text{NK}_2\text{O}/\text{NR}_2\text{O} < 0.8$ when the at least two alkaline metals are taken as R, NR₂O is a total mol content of the at least two alkaline metal components in terms of a composition formula R₂O, and NK₂O is a mol content of the K component in terms of K₂O.

3. A (Amended) The spark plug according to claim 1, wherein the glaze layer further comprises a B component and a Zn component in terms of B₂O₃ and ZnO, respectively, in a total mol amount of N(B₂O₃ + ZnO),

2
the glaze layer further comprises at least one of: an alkaline earth metal component RE, RE being at least one selected from Ba, Mg, Ca and Sr, in terms of a composition formula REO; and an alkaline metal component R, R being at least one selected from Na, K and Li, in terms of a composition formula R₂O, in a total mol amount of N(REO + R₂O), and

the ratio: N(B₂O₃ + ZnO)/N(REO + R₂O) is 1.5 to 3.0.

6.7. (Amended) The spark plug according to claim 1, which comprises one of: a terminal metal fixture and the center electrode as one body, in a through hole of the insulator; and a terminal metal fixture provided separately from the center electrode via a conductive bonding layer, in a through hole of the insulator, and

an insulation resistant value is 200 MΩ or more, which is measured by keeping the whole of the spark plug at about 500°C and passing a current between the terminal metal fixture and the metal shell via the insulator.